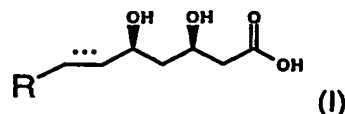


What is claimed is

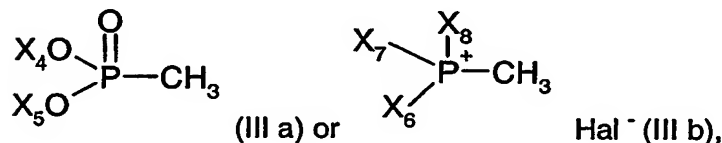
1. A process for the manufacture of an enantiomerically pure form or a racemic form of a compound of formula



or a salt, especially a pharmaceutically acceptable salt with a base, thereof or a lactone

thereof wherein the element \cdots represents $-\text{CH}_2-\text{CH}_2-$ or $-\text{CH}=\text{CH}-$ and R represents a cyclic residue; comprising

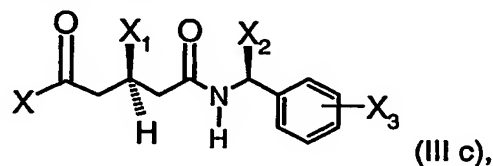
(a) reacting compounds (IIIa) or (IIIb)



wherein X_4 and X_5 , independently of one another, represents $\text{C}_1\text{-C}_7$ -alkyl or phenyl- $\text{C}_1\text{-C}_7$ -alkyl;

X_6 , X_7 and X_8 , independently of one another, represent phenyl that is unsubstituted or substituted by one or more substituents selected from the group consisting of $\text{C}_1\text{-C}_7$ -alkyl, hydroxy, $\text{C}_1\text{-C}_7$ -alkoxy, $\text{C}_2\text{-C}_8$ -alkanoyl-oxy, halogen, nitro, cyano, and CF_3 ; and Hal^- represents a halide anion;

with a metallated alkane to form the corresponding ylide and then reacting the resulting ylide intermediate with a compound of formula



wherein

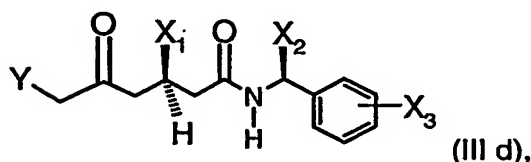
X represents etherified hydroxy, esterified hydroxy, or unsubstituted or mono- or di-substituted amino;

X_1 is protected hydroxy;

X_2 represents $\text{C}_1\text{-C}_7$ -alkyl; and

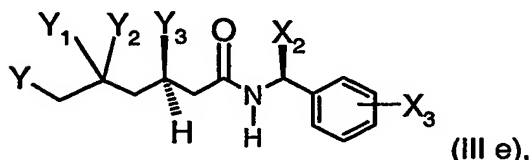
X_3 represents hydrogen or one or more substituents, e.g. selected from the group consisting of C_1 - C_7 alkyl, hydroxy, C_1 - C_7 alkoxy, C_2 - C_8 alkanoyl-oxy, halogen, nitro, cyano, and CF_3 ;

(d) optionally, if desired, converting a resulting compound of formula (III d)



wherein X_1 , X_2 and X_3 have the meanings as defined above and Y represents a group of formula $(X_4O)(X_5O)P(=O)-$ or $(X_6)(X_7)(X_8)P^+ Hal^-$ and X_4 , X_5 , X_6 , X_7 , X_8 and Hal^- have the meanings as defined above;

into a compound of formula (III e)



wherein X_2 , X_3 and Y, have the meaning as defined above and wherein

Y_1 represents hydroxy or protected hydroxy and Y_2 is hydrogen and Y_3 is hydroxy or protected hydroxy, and Y_1 and Y_3 forming a syn-diol configuration; or wherein

Y_1 and Y_3 together represent $-O-Alk-O-$ and Alk being C_1 - C_7 alkylidene; and Y_2 is hydrogen, and Y_1 and Y_3 forming a syn-diol configuration;

(e) reacting a compound of formula (III e)

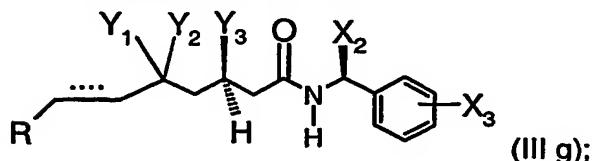
wherein X_2 , X_3 and Y, have the meaning as defined above and wherein

Y_1 represents hydroxy or protected hydroxy and Y_2 is hydrogen and Y_3 is hydroxy or protected hydroxy, and Y_1 and Y_3 forming a syn-diol configuration; or wherein

Y_1 and Y_3 together represent $-O-Alk-O-$ and Alk being C_1 - C_7 alkylidene; and Y_2 is hydrogen, and Y_1 and Y_3 forming a syn-diol configuration; or wherein

Y_1 and Y_2 together represent the oxo group and Y_3 represents protected hydroxyl (corresponding to compounds of formula (II d);

with an aldehyde of formula (III f) $R-CH(=O)$ resulting in a compound of formula (III g)

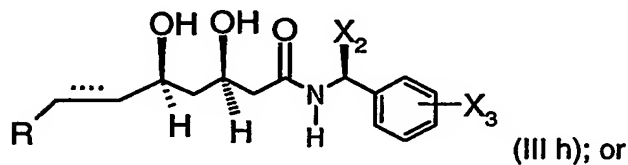


wherein R, X₂, X₃, Y₁, Y₂ and Y₃ and the element ----- have the meanings as defined above;

if desired, reducing corresponding compounds of formula (III g), wherein the element ----- is $-\text{CH}=\text{CH}-$ to result in a compound wherein said element is $-\text{CH}_2-\text{CH}_2-$; and

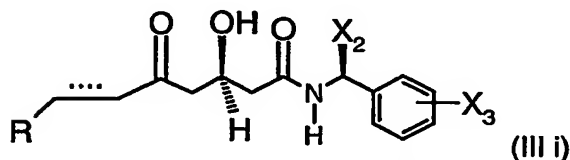
(d) if a compound of formula (III g) is obtained, wherein one of Y₁ and Y₃ is protected hydroxy and the other is hydroxy or both of Y₁ and Y₃ is protected hydroxy and, in each case Y₂ is hydrogen; and Y₁ and Y₃ are forming the syn configuration; or

Y₁ and Y₃ together represent $-\text{O}-\text{Alk}-\text{O}-$ and Alk being C₁-C₇alkylidene and Y₁ and Y₃ are forming the syn configuration; and Y₂ is hydrogen; or by removing the hydroxy protection group(s) to a compound of formula



if desired, reducing corresponding compounds of formula (III h), wherein the element ----- is $-\text{CH}=\text{CH}-$ to result in a compound wherein said element is $-\text{CH}_2-\text{CH}_2-$;

(e) if a compound of formula (III g) is obtained, wherein Y₁ and Y₂ together form the oxo group $=\text{O}$; and Y₃ is protected hydroxy (X₁); converting said compound of formula (III g), to a compound of formula (III i)



by removing the hydroxy protection group;

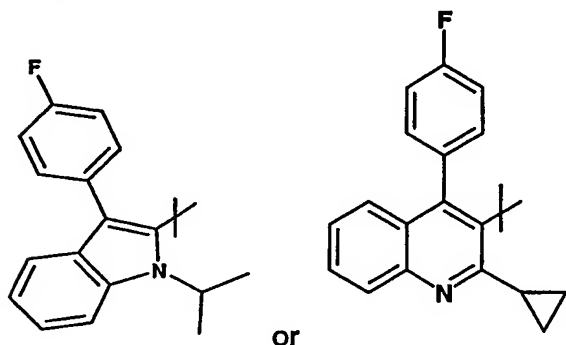
wherein R, X₂, X₃ and the element ----- have the meanings as defined above ; and subsequent reduction of said compound of formula (III i) to a compound of formula (III h);

(f) hydrolyzing a compound of formula (III h) to a compound of formula (I) or a salt thereof and

(g) Isolating a resulting compound of formula (I) or a salt thereof;

and, if desired, converting a resulting free acid of formula (I) into a salt thereof or into a lactone of formula (I a) or (I b), respectively, or converting a resulting lactone of a formula (I a) or (I b) into an acid of formula (I) or a salt thereof.

2. A process according to claim 1 for the manufacture of a compound of formula (I) or a salt thereof, wherein the element ----- represents $-\text{CH}=\text{CH}-$ and R represents the cyclic residue of formula



3. A process according to claim 1 or 2, wherein a compound selected from the group consisting of a compound of formulae (III c), (III d), (III e), (III g), (III h), and (III i) is used, wherein, in each case, X_2 is methyl and X_3 is hydrogen.

4. A process according to claim 1 or 2, wherein a compound of formula (III c) is used, wherein X is N- C_1 - C_7 alkyl-N- C_1 - C_7 alkoxy-amino.

5. A process according to claim 1 or 2, wherein a compound selected from the group consisting of a compound of formulae (III c) and (III d) is used, wherein X_1 is tert-butyl-dimethyl-silyloxy, and from the group consisting of a compound of formulae (III e), (III g) and (III h), is used, wherein Y_3 is tert-butyl-dimethyl-silyloxy.